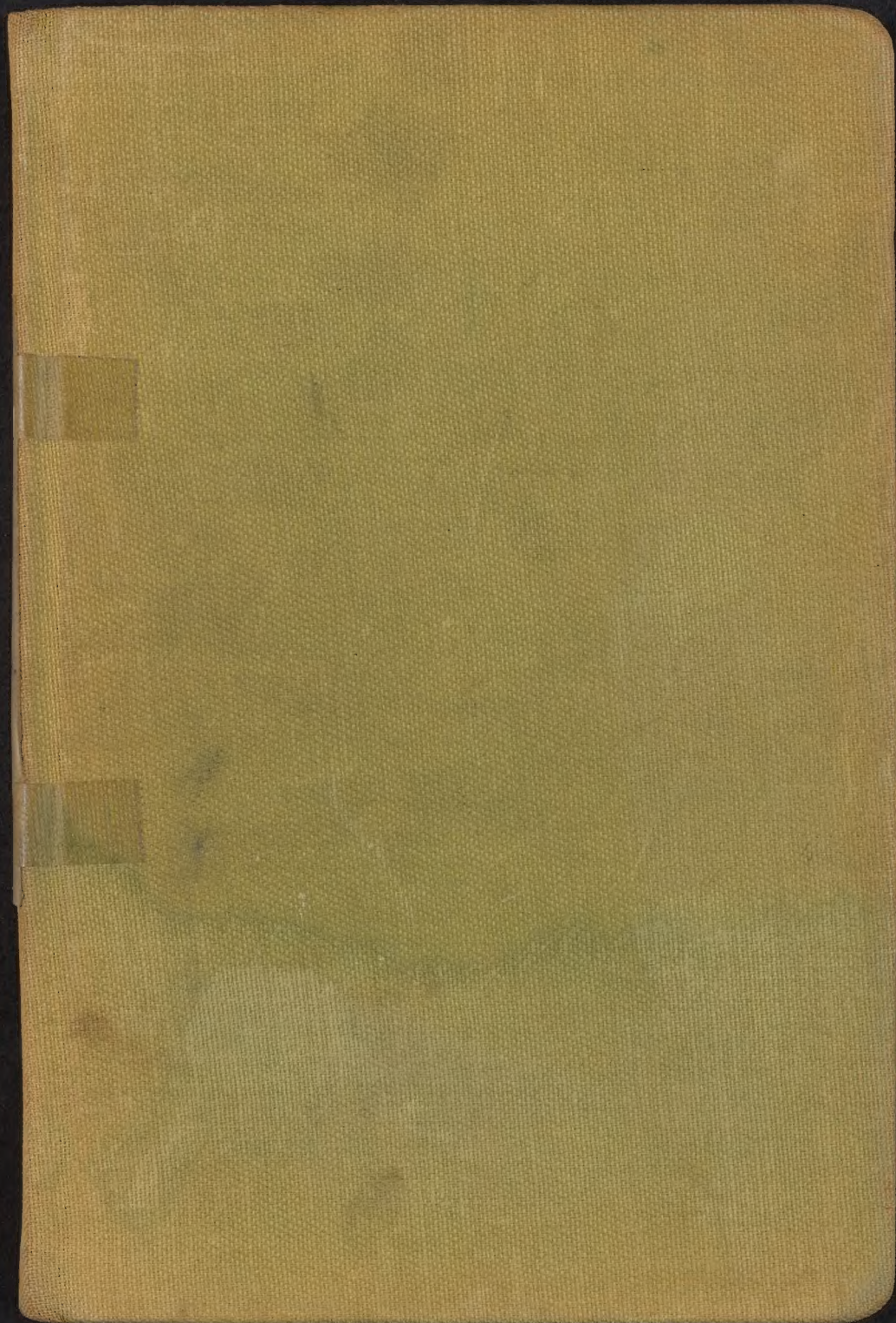




P. KAMB

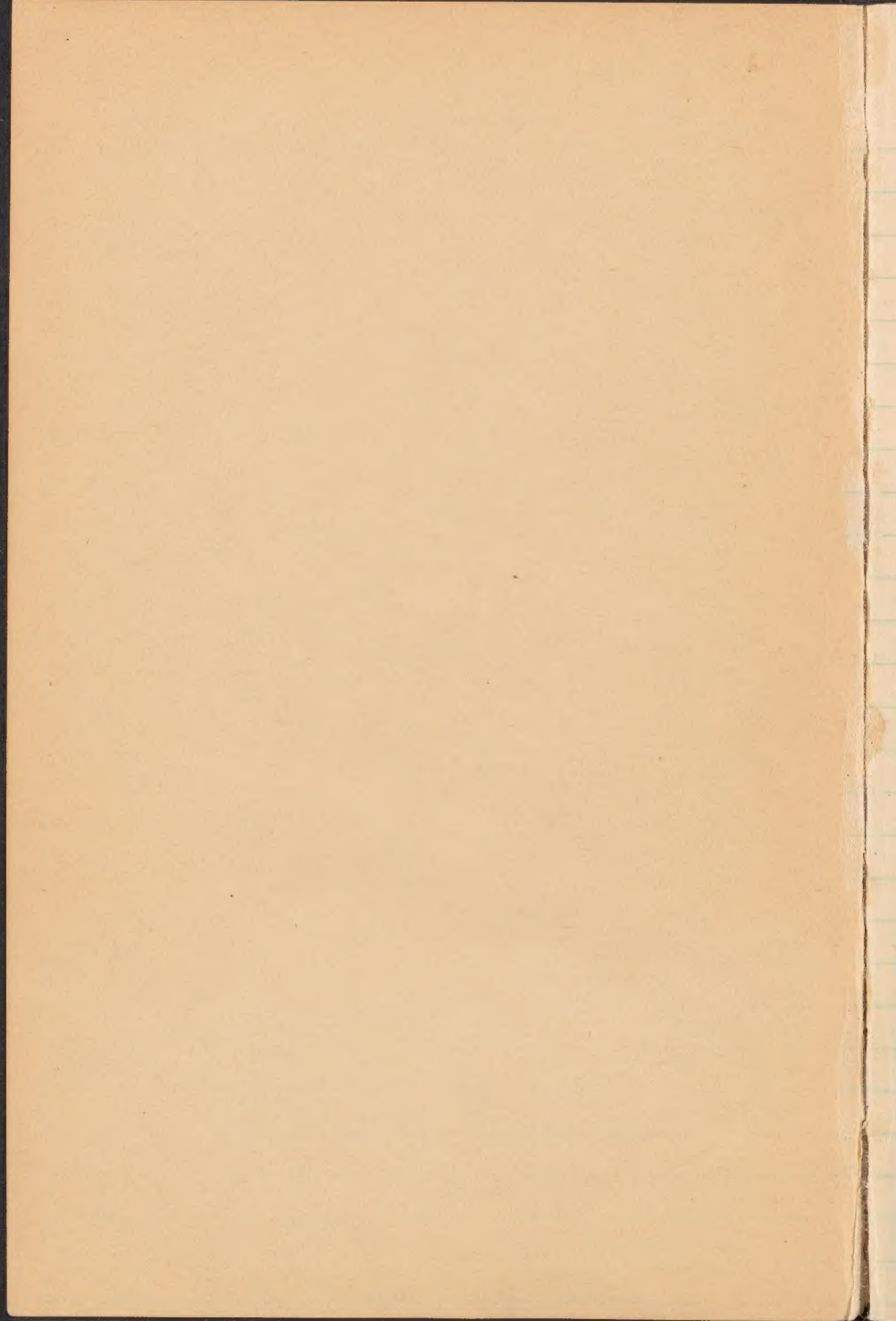
Herbarium, Dept. of Botany

University of California

Berkeley 4, Calif.

50174

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Jardín Atkins, Central Solerías,
alrededores de Cienfuegos. 31 de Junio 1957

③ 2026. *Cordia leucosebasteana*

Small tree 4-5 m. tall; foliage dark green - corolla dull white, strongly plaited in the throat; fruit stony, with thin fleshy pericarp, the whole enveloped in thick fleshy calyx; and 1-4 embryos enclosed within the single stone, surrounding a central fleshy zone. Cultivated - Atkins Garden near 15th and, w. of Palen collection.

Al lado del Camino en frente de
Stanford House, Central Solerías, alrede-
dors de Cienfuegos, Las Villas, Cuba.
1 de Julio 1957.

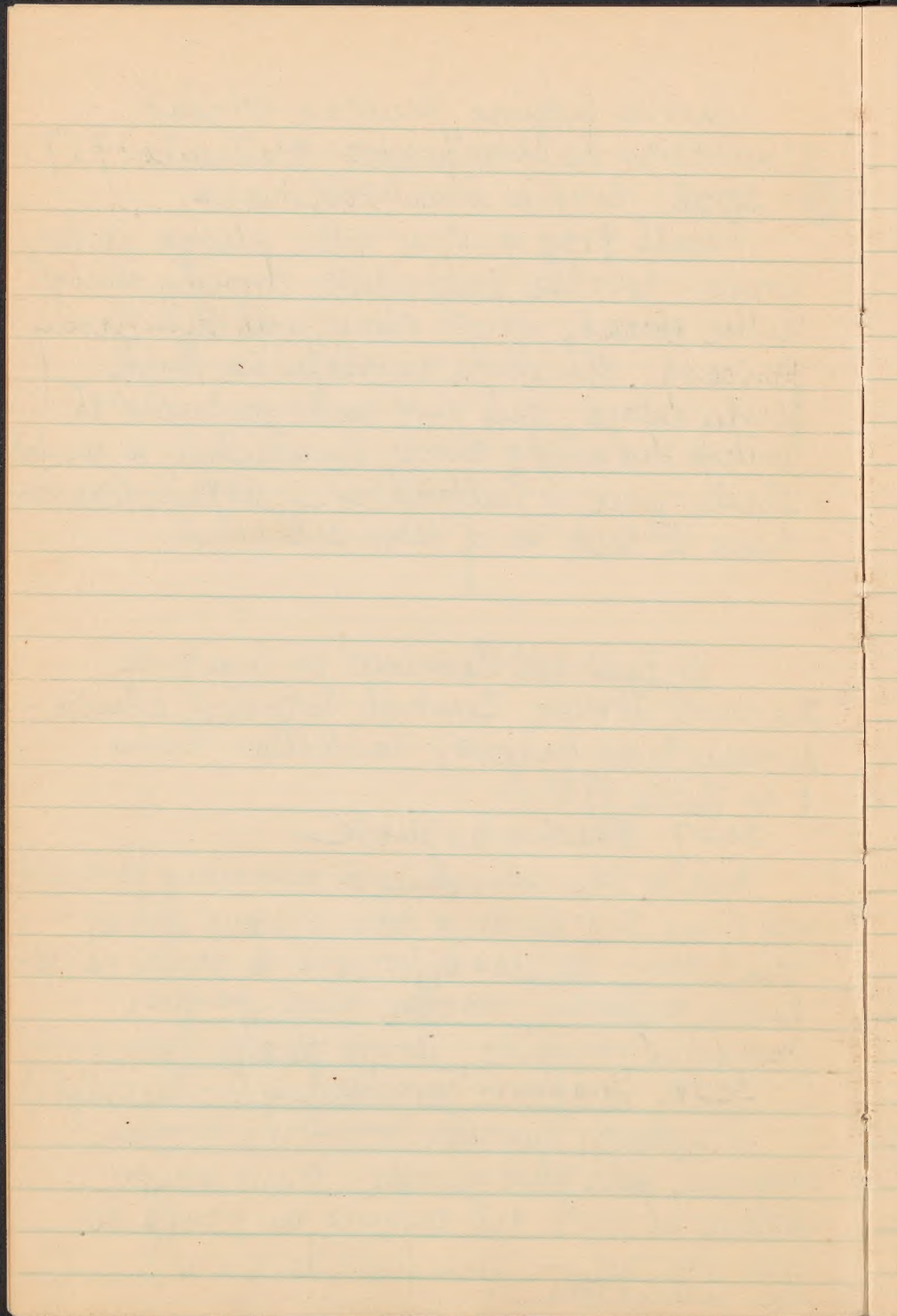
2027 *Stachytarpheta*

More or less sprawling or ascending perennial
with stems 3-5 dm long from a stout woody
basal stem. Calyxes appressed to rachis except
during anthesis; corolla blue-purple.

Distributed roadside, drier places (clay soil)

1 2028. *Inoëlis jamaicensis* L. (Malpigh.)

Low shrub, sparsely branched; corolla
outspread, pale blue-purple; fruits winged.
Ponero al norte del camino en frente de
Casa Stanford - (Open field, disturbed).
Fr. pickled FPA.



Lista de los Árboles de interés especial
del Jardín Atkins, Solvay, Cienfuegos, Cuba.
31 de Junio 1957.

Monocots

Palmeras

Corypha

Roystonea

Clusia

Gustavia angustata

Chamissoa

Salicornia ramosissima

Secythisacrae

Conrapila Guianensis

Crustaria angusta

Tiliac. - Crenia asiatica

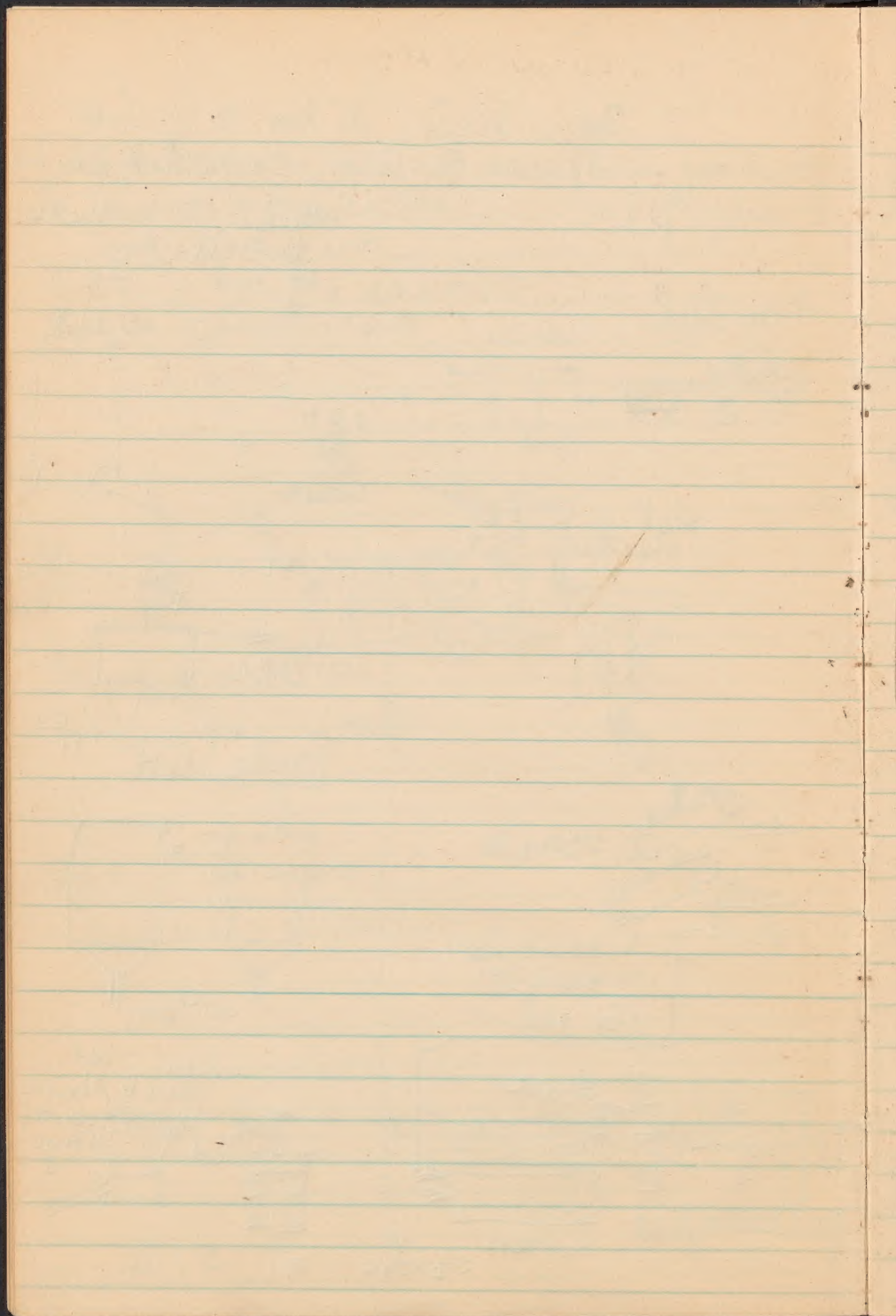
Lythrac. - Lagerströmia

Santalum album

Apoc.

Alimandra cathartica y

31,000 T / yr. - at most 181 M sacks



From M.T. to ...

Costs - ... 15,000
... 17,000

... (aluminum) - ...
... - ...

Incapa area 9 km. west
of Capatzen, Valle del Rio San Juan,
2 August 1951

Elevation 525-540

Thornbushes, small trees - the vegetation
is not very dense to 15-20 ft. tall.
Many flowering plants.

Some *Indigofera*, *Quercus*, *Handia*, etc.
Banksia, *Cassia*, etc.
Small trees, some with fruit as collected.
Abundant *Psychotria* - *atlantica* group
up, some *Crataegus*, *Chorizanthe*, *Polypodium*, etc.

Los Tragos Vega - near Guastatán,
Valle del Rio Chagüelón, Guatemala,
2 August 1951

2-4 year old plantings of *Pithecellobium*
on river banks - much higher growth
(5' tall) on sandy soil, poorer
(10' x 5') on clay soil upon terrace.

Large plantings of *Pithecellobium*, 2000
trees, 4-6 ft. tall, 4 yrs.
young trees of all kinds, etc.

Quintana Roo, near of Villa de la Villa
(Cahuilla Blanca) used for rubber - tapped
using the latex, necessary to slash trunk at
10' height to obtain latex.

Los Brages - back in foot-
hills of range, alt. c. 6000 ft. Upper part
of Pinks in full bloom, with hircopars and
hircos (number 241 - 573), and hircos
oaks (Quercus laevis #417, 553), and
shrubs (Ceanothus).

The Los Brages tract is a 1500 acre
tract in the foothills at about 2000 ft.,
has been under forest for some 5 years.
The forest is vigorously regrowing
after a fire, with occasional small
trees of seedlings, but mostly under
and 4-7 feet tall. The mature trees
are from 10-15 ft. in diam. It appears that
the forest is becoming more or less
oaks, as there are many by Pine
seedlings. The area has now been cleared.

The adjoining Potosi tract, some 10
NW from the other, has been under forest
protection (V.E.) just this year. It is a
young forest, the young trees of the
forest almost complete, but a number
of the seedlings and Ceanothus
as well as a few of the young trees are
coming freely. The young trees 1-3 feet in
height are looking, but apparently 1st year
seedlings (4-10") are present in the forest.

In abundance. Occasional rather dense
stands of seedlings 10-15' or higher. Such
stands wherever they are observed and
suggest the successful reproduction of pine
in areas which by all accounts have been
burned (probably not less than 5) years
ago. Seedlings of this size (and appear) to be able
to reach 12 ft. in height in 4 yrs. That
seedlings of this size can survive for 4 yrs.
is made possible by several factors, which
obviously underwrite pine in the last long
season (Jan - May; fires are first percepti-
bly to break the pasture, generally in March-
April)

Forest on pine seedlings is a clear
example of pine, in a burning area
and is a clear example of pine, in a burning area
(1)

Forest on pine seedlings is a clear example
of vegetation through increasing age, and
(2) is a good example of different and then of
exposure.

(1) The forest is pure *P. caribaea* from
trunks (600') to chest (c. 2500'), with little
difference in appearance. *Quercus* and
various shrubs are common at all altitudes.
However, *Quercus oleifolia* is found only in

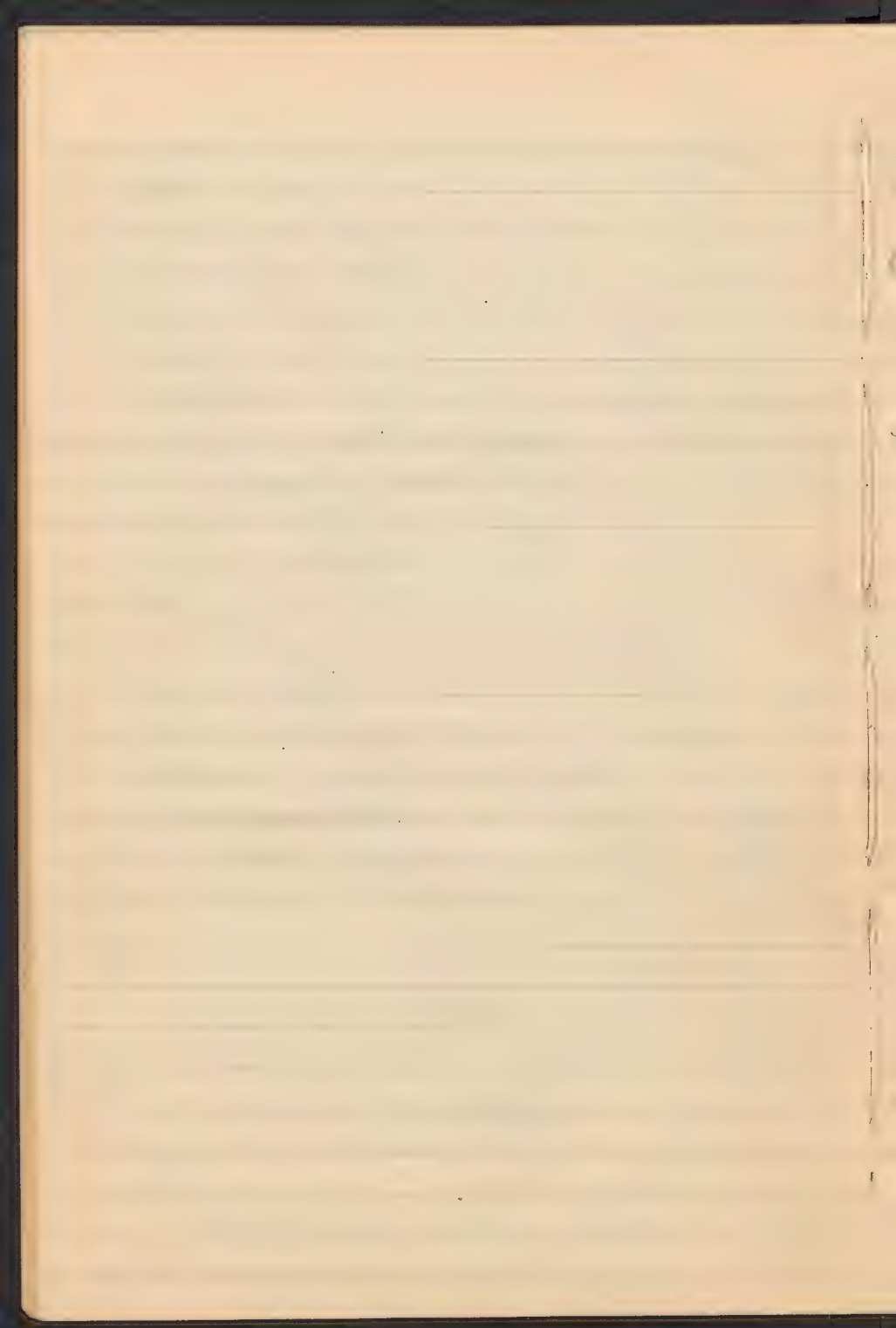
the valley on earth and in the foothills,
even being replaced by glacial sand (F57)
and possibly more slip of sand.

By North, South & also W. the J. all appear
to develop a variation of the same character
- a glass mosaic, but not those used,
and the difference is more upon distribution
of the water components. Brown and red
clay is applied to the surface, but a thin
layer of clay varies and much more a
uniform ground is present, with out large
spots as Clava, Spodumene, Curcuma, Corundum,
etc., at all (F54-55, 56, 57).

2nd day (Sat. Aug. 14 Aug. 1951)

Starting at Hualtepec in the south, efforts
to reach the larger valley floor and forest
away from the coast; on the north and
south the terrain has been found to be
a wooded variety of Quercus, C. & large
trees.





14 de agosto 1957

Northeast end of Lake Yojoa - Agua Azul
 No. 101 "B" (Cerro K.R. Co.) - alt. c. 2100 ft
 (1) Pinar abierto, ceritos y bajadas atrás
 del lago, el suelo cubierto de helechos
Pteridium muy espeso y de 1.5-2.5 m. de
 altura. Hay también las *Melastomaceas*,
Compositas, *Myrtac.* y de vez en cuando
 una *Chlorita*. Hace como 10 años que se
 sacó la mata de pino; los pinos de ahora
 son hasta 3-4 m. de diam. Los juveniles son
 a menos de 3 clases: "semillas de como 1 m.
 de altura: 1-año" de como 1 m.; y más
 niños de 2-3 m. Se encuentra la 1-a
 clase más abundante, pero generalmente
 hay pocas y ^{los} se encuentran por grupos en
 lugares abiertos - por ejemplo donde ha
 caído un pino. No se ha visto ninguno desde
 como 5 años por lo menos. Hay algunos
 de clases 2 y 3 pero no están tan abundan-
 tes.

7 2029 *Rubra AAAA* *Genipa carato* HBK
 Tree 10 m. high, with spreading crown,
 2 dm. diameter; bark light gray, smooth;
 inner bark light yellow; corolla inner yellow
 with some orange; fruit globose, c. 7 cm. long,
 fleshy red firm, 4-lobed at top, pulp white turning
 brown on cutting. Still in pine forest.

- specimen bidentata Smith.*
 3 2030 *Onoclea* - "jallabram"
 Flowers bright scarlet with yellow spot on
 lip - on wet rocks, low shrubs.
 2031 "Polygala"
 Juggling in low shrubs (hardwoods)
 2 2032 *Polygala*
 Spreading shrub, petals white at base
 no purple at tip. Shady opening, under broken
 fern.
 2033 *Blotium*
 Creeping rootstock. Low places about
 1200 in hills etc.
 4 2034 *Baccharis trinervis* (Lam.) DC.
 Suffrutescent, shrubby 1.5 m. tall; flowers
 white. Shrub-like shrub in broken fern.
 ③ 2035 *Marsippospermum* subsp. *truncatum* (Lam.) DC.
 Shrub-like, spreading vine; corolla limb
 orange, lobes not in the center. On steep
 in woods - fern.
 4 2036 *Triene* - "Polygala" *decumbens* L.
 Perennial from a small, creeping stem with
 bright yellow, terminal - flowers clearing
 up of flowers. Under broken fern in hill.

- ↓
- 4 2037 "*Cassia stenocarpa* Vog.
 ascending, stems annual (?);
 leaflets glaucous to green in the dark; corolla
 bright yellow. Scarbared, about blacken.
- 3 2038 *Zornia diphylla* (L.) Pers.
 spreading, somewhat woody; corolla
 bright yellow — openings in blacken.
- 2 2039 *Crotalaria sagittalis* L.
 erect annual; corolla pale yellowish;
 fruits inflated, blue-black at maturity.
- 5 2040 *Clidemia rubra* (Aubl.) Mart.
 20-30 cm. to 2 m. high; corolla white
 and bright pink; fruits red purple at
 maturity, hairy. Common in blacken.

14 de Agosto 1917.

(?) *Lagerströmia speciosa* (L.) J. R. & G. —
 hay pocos árboles en el Pinar, y gran parte
 de ellos, la más hermosa, la que
 se ve en el Pinar, bastante por el lado de
 la gran casa, y especialmente del 3º. año.
 En la sacada, los árboles son muy altos,
 en otra parte. Ahora no es claro por qué
 faltan árboles aquí — se caen los árboles
 viejos, una gran parte por el viento. El árbol es
 grueso, fuerte. Quizá la falta de
 agua al mayor que los otros, ordinarios.

- 4 3041. *Cenchrus repens* Schlecht.
Ascending, prostrate, to 4 dm tall
stem, leaves lobed; perianth pale greenish.
In grassy undergrowth.
- 1 3042 *Stenotaphrum secundatum* (L.) Retz. &
Wimmer
white, 1 plant seen, in grassy undergrowth.
- 2 3043 *Paspalum digitaria* Poir.
Perianth, deep red. Leaves common. Near
the others.
- 2 3044 *Stenotaphrum fusiforme* Hitch.
Perianth, greenish - in grassy undergrowth.
- 3 3045 *Andropogon bicornis* L.
Perianth, greenish - to 1.5 dm.
ascending, prostrate.
- 5 3046 *Paspalum plicatulum* Michx.
Perianth, greenish - common.
- 5 3047 *Setaria geniculata* (Lam) Beauv.
Perianth, from 1 dm. to 1.5 dm. tall; stem
ascending and branching. - 15 dm. high.
Common.
- 2 3048 *Cyperus knollianus* Boeckl.
Stem, cyperoid, prostrate 4 dm.
tall; stem, bulbous at base; leaves, linear-lanceolate.
Common.

2 2049 *Elymus cespitosus* (Torr.) Muhl. - Kuhn
In the same place as 2048, but
usually with one stem, to 4 dm tall.
Leaves thinning out. Scattered in
grasses.

2 2050. *Digitalis violascens* Link.

Stems slightly prostrate. Low
areas.

3 2051. *Deschmnia ciliata* Vahl.

(~~fl. white~~) (purple). Most of involucre
white above. Scattered in grassy
and rocky in cleared areas.)

6 2052 *Compositae* *Calea trichotoma* J.D.Sm.

Stems to 2 dm high; corollas yellow. Among
grasses.

(2)

2053. *Mercurialis*

Small specimen with old fruit, found
to date, probably one of Taylor's specimens.
In the grass.

4 2054. *Cynodon inflexus* (Muhl.) Boeckl.

Small plant, apparently annual.
Rough open

4 2055. *Cynodon repens* Schlecht.

Stems from stout root, 1-2 dm high.
Similar to # 2041 but differs in 2 ways

margin of the leaf; (3) long margin dependent;
(4) parallel fl. in clusters; (5) fruit black
or maroon, are by R. & S. 100, 100, 100.

En San Lorenzo de la Vera Cruz, del
Estado de Tlaxcala, se han encontrado
los alfileres del tipo (Fig. 1) se han encontrado
por primera vez y por primera vez. Por lo tanto
hay que decir, después de una larga
carrera, y se descubren los primeros
alfileres. Por lo tanto es muy probable
al tipo natural y en la actualidad.
Se encuentran a veces los siguientes:

2046, 2048, 2051

don't forget que lo que permite al cuerpo de investigadores adentrarse allí es una orden que sobre todo prohíbe el acceso o el desarrollo completo de los archivos.

15 de Agosto 1937

Ciudad del Volcan, como se llama de
los cerros a la villa del norte del lago
Verde, Huerfano - Es uno de los mejores
sitios. En la cima hay gran cantidad de pinos
y gran cantidad de valles, bosques y
en el pie nevado.

Evolvulus alsinoides L.

Decid. trees, mostly in groups: some
decid. trees, some in groups: some
decid. trees, some in groups.

1 2057. *Polypodium*
 2057. *Polypodium*. Corolla inflated
 greenish white, with pale pinkish red center.
 One plant seen: leaves thick & green.
 Sept 20/12.

2008. Found in Arizona but black.
 Brown and black a short blackish
 to c. 5 cm long. Not many but of
 a common type, under stones in canyon
 in the valley. Sister - Mrs. Webb

6 0057. *Polypodium distans* (Michx.) Vahl.

Deep caissons forming the slopes
conquering the valley below as usual. In some
in dense soil, gentle slope (20 ft. or so)

* Toda colocación de los ejemplares completos de los programas a yuntas de la coladora.

Rhynchospora corymbosa (L.) Britton

- 1 2060. *Sporobolus* *virgatus*
capitatus (perennial). In dense grass,
 on hills, on north slope - uncommon.

- 6 2061. *Eriosema aff. simplicifolium* (HBK) G. Don
 ascending or decumbent, perennial, with
 a conspicuously long leafy prostrate, capillary bright
 yellow, spreading in the soil, north slope.

- 2 2062. Same as 2061 *Eriosema erinitum* (HBK) G. Don
 decumbent, caespitose, as above, but the
 stems and leaves are prostrate, not ascending, and
 the small, shrubby, prostrate, caespitose
 stems are yellow. In dense soil - abundant.

- 4 2063. *Ruellia megistota* Schult
 erect or ascending, 1-2 m. high. Stout
 stems and branches in dense forest, among
 bushes and shrubs of the volcano.

- 4 2064. *Miconia tuercckheimii* Cogn.
 Erect, bushy, perennial, with
 woody, cylindrical, conspicuously ridged, corolla 7-
 parted, pale pink. In shrubby forest and
 hills in canyon bottom.

- 4 2065. *Psychotria Schima hirtella* Sw.
 Erect, perennial, prostrate, creeping, prostrate
 stems. In dense grass, on all slopes.

1 2066 *Scleria hirtella* Sw.
Episporeae to 2065
(Quartz singular to last but for lack of
pubescence - could not obtain 11 grains)
In 1 specimen. In dense sod, north peak

2 2067 *Paspalum digitaria* Poir.
Weak stemmed, presumably perennial.
In dense sod, north peak

• 2068. *Chloridaceae*
Perennial, no thickening at base
forming a long, decumbent, finely erect
stem about 1/2 ft. high. In dense grass,
north peak.

1 2069. *Manisuris linearis* HBK.
With a linear, slender, in grass
from a small root system, leaves 1/2 ft. high &
occasional sharp to blunt tips; dull white,
radically unbranched. In dense grass, north peak.

5 2070. *Eriosema grandiflorum* Seem.
Perennial, perennial with several stems
2-3 in. high from a dense, woody rootstock;
crude bright yellow. Growing in grass,
and along trail, summit of north slope.

744 391. Rubiac. *Cephaelis tomentosa* (Aubl.) Vahl
Shrub 10-15 dm. in h. corolla bright
orange-red, sepals dull yellow; fruit
berry-like, oblong, blue, projected beyond
involucre. About 2000 ft. in shade, bottom
bottom South of Mexico.

5 392. *Byrsonima crassifolia* HBK.
Shrub 2 m. in h. young
leaves green, mature leaves pale
green. Corolla bright yellow. Fruits
large, green, fleshy; seeds green.

③ 393. *Miconia mexicana* (Lam.) Vahl.
Shrub 2 m. in h. corolla
green; fruit red. On shrub 2000 ft.
bottom, bottom, bottom.

6 394. Rubiac. *Declieuxia fruticosa* var. *mexicana* (HBK.) Standl.
Shrub 10-15 dm. in h. corolla white, with
yellowish tinge; fruit green. About
2000 ft. in shade, bottom.

4 395. Piperac. *Peperomia major* (Miq.) DC.
Shrub 2 m. in h. corolla
bright green, pale yellow. Fruits
large, fleshy. About 2000 ft. in
bottom (S. of Mexico).

2076. Grass

Spreading perennial, 1-2 dm high.
Stems, roots, crown, leaves below,
guava-like odor.

5 2077. *Phytolacca* *rivinoidea* Knuth & Bocke

Climber, leaves green, some; corolla
white, highly pinkish; racemes pendulous
on short stiff low stems, can be eaten
under hard wood (as 2076) *

8 2078. *Raf. a. c.* *Anisomeris protracta* (Bartl.) Stand.

Rounded, no. 1000, 1000, 1000, 1000
1.5 m, high; corolla long, white, small
leaves spreading. Sp. 1000, 1000, 1000
bottom as 2076.

4 2079. *Bissorea* *convolvulacea* C. & S.

Climbing vine, corolla red-brown.
In fruit, in wood, any in color
(as 2076).

4 2080. *Paspalum* *paniculatum* L.

Grass, 1000, 1000, 1000, 1000
all on lower side of branch. Sp. 1000, 1000, 1000
Stems, in partial shade, any in color

* No. 1000 fruit black, fruit green, not
major as they appear in drying.

- 2 2081 *Cynchicula* *Panicum pilosum* Swartz
Plants dense or dense in patches
narrow. In shade about streams, valley S.
of Volcan. with 2082.
- 6 2082 *Centella erecta* (L.f) Fern.
Creeping perennial, corolla pinkish,
yellow. In shade, damp soil, below stream,
in valley bottom S. of Volcan. with 2081, 2083.
- 5 2083. *Panicum parvum* Hand.
Perennial, often branched, leaves
linear 3-5 in. high. Shade about stream
in valley bottom S. of Volcan.
- 6 2084. *Polygala*
Erect annual; corolla white or pink.
In grass, damp soil in canyon bottom, S. of Volcan.
- 4 2085. *Polygala*
Erect biennial; corolla lavender pink.
In grass, damp soil in canyon bottom, S. of Volcan.

16 de Agosto 1957

Agua Ayuda near 25 m. On the del norte side
 Lago Chapala, near del Norte. Riverside division
 in deep. Shallow water, floating masses of grass
 (Sagittaria) common 100-200 m. from shore, 2-3 ft
 deep mainly dense of open water in which there are
 occasional flowers.

3 3086. *Stratiotris* obtusa Sw

Shallow water, common, floating, in
 water 15 m. above water. Corolla bright
 yellow, round with no lobes on the petals
 dense hairy in opening. Common grass.

4 3087. *Stratiotris* gibba L.

Shallow water, common, floating, in
 water 2-7 m. above the water, corolla
 bright yellow, round with 5-6 mm. in petal.
 Andry (like) 10-15 mm. in petal.

3088. *Asplenium* (M. J. J. J. J.)
 Long-stemmed plants submerged in
 surface; plants short, submerged, or
 3-5 dm. long. In dense floating mass
 of grass.

2 3089. *Polygonum* acuminatum HBK

Shallow water, common, floating, in
 water 2-4 dm. high, white,
 round 4-6 mm. In open water near grass.

3 2090 *Polygonum punctatum* Ell.

As the last, but with flowers, in flower
spikes very long, glabrous. Spikes white, long
common than 2091; also yellow when in flower

4 2091 *Calceolaria Hemidiodia ocimifolia* (Willd) Schum.

Stems 1-2 ft. high, with leaves, 4-5 lobed. The
leaves are in the axils; the flowers are
1-2 in. high, with the white, 4-5 lobed. The
flowers are in the axils of the leaves.

6 2092 *Phacelia Galactia belizensis* Standl.

Upright, branching, prostrate, 1-2 ft.
tall, with leaves 1-2 in. long, 4-5 lobed, with
lanceolate, dull yellow, greenish or purple, 1-2 in.
long, longer yellow, each with 4-5 lobes, 1-2 in.
long. Rooting from the base of the submerged
stem. The roots are 1-2 in. long, 1-2 in. thick.
The leaves are 1-2 in. long, 1-2 in. thick.

1 2093. *Boehmeria cylindrica* Sw.

Inflorescence 1-2 ft. long, 1-2 in. thick.
The leaves are 1-2 in. long, 1-2 in. thick.

6 2094. *Pontederia rotundifolia* L.

Stems 1-2 ft. high, with leaves 1-2 in. long, 1-2 in. thick.
The leaves are 1-2 in. long, 1-2 in. thick.
The flowers are 1-2 in. long, 1-2 in. thick.
The fruits are 1-2 in. long, 1-2 in. thick.
The seeds are 1-2 in. long, 1-2 in. thick.

3 2095. *Panicum aquaticum* Poir.

Corresponding to the following of the
stems submerged and rooting below, elongated
above to 1 in. high; glumes red-brown; sheath
very scabrous.

2 2076. *Cyperus lugubris* (L.) Retz

With long creeping rootstock; shoots erect,
in dense floating grass. Leaves submerged.

4 2097. *Cyperus haspan* L.

Submerged, no culms, with green apparently;
shoots erect, leaves submerged; in dense
floating grass.

4 2098. *Eleocharis blagayana* (HBK.) R+S

With long creeping rootstock, rooting
in mud under c. 1 m. of open water; root-
stock 150. shoots erect, 2-3 dm. long, leaves
to 5 dm. above surface, terete, thin-walled and
tender, with abundant transverse
membranes and occasional small
"S" shaped ones at the yellow external
nodes. Stems apparently appearing earlier.

6 2099. *Euphorbia* *Caperonia castaneifolia* (St. H.)

Herb perennial, growing in mud beneath
1-2 in. of water. Stems erect, 1-3 dm.
Stems fls. with 4-5 white petals, the area
under the petals 10-12 shades and numerous
pink; pistillate fls. with 8, 4-5; fruit with numerous gland-tipped hairs, these
of the corolla with swollen base.

1 2100 "*Nelumbo*" *repens* Nutt.

Herb perennial, leaves green; long
with a single large clavate appendage the petiole
near the base. Roots submerged but
supported by dense floating grass beds.

9 2101 "*Nelumbo*" *lutea* (Willd.) Pers.

Stems & lvs. on stout stalks 1-1.5 m. long
from roots of long-creeping, or the stems of the
roots which float or occasionally
half out of the water and have oval shape, lobes
and petioles 4-8 cm. in diam. which flowers
above; lvs. 1-3 in. above the surface, with the
petioles just yellow; others bright orange; stems
15-20. In deep water probably by growing
floating grass bed.

6 2102. *Scirpus acutus* Muhl.

Stems erect, c. 1 m. above surface, from
 root-carrying rootstock producing abundant
 horizontal roots, in the mud below c. 1 m. of
 from water; lvs. repeatedly by discarding
 sheaths about base of aerial shoot. The
 leafy shoot and panicle not immersed, fertile.

2103 *Utricularia*

Flowering in water about roots of dense
 grass, probably 20%. The characteristic net obtained
 the first plants seen, & that there were patches (FPD).

2104 *Utricularia*

Healthy roots but occasionally with
 root rot; leafy shoot floating in water
 surface of water - still a small number of
 plants, some floating - very few plants
 all that were sampled were fertile (FPD).

(The collection was made of plants from the
 same place)

17 de Agosto de 1957

Superfalso como de 10 km², Kerobok
de Seibranco por la carretera intercomunal
Kerobok - Ocon con granja y sala de
cine.

2105 - *Myiophobus*

Grupos de 10-15, gran a 10-15 por el
trazo - donde se le vea 10-15

2106 - *Chalcophaps indica* - en el lago

Grupos de 10-15, gran a 10-15
trazo. Grupos de 10-15 en el lago

19 de Agosto 1957.

Cerro (1700 m) de 1957 al 1958

de Siguanayagua, Honduras. Se han visto
y oídos, el mayor de los Vucos, Siguanayagua
con una granja, de 10-15, gran a 10-15
trazo y 10-15. Grupos de 10-15 en
el cerro de 1957, gran a 10-15, gran a 10-15
trazo y 10-15. Grupos de 10-15 en
el cerro de 1957, gran a 10-15, gran a 10-15
trazo y 10-15.

4 2107 Cerro Siguanayagua (Jacq.) HBK

Superf 8 km 2 km, gran a 10-15, gran a 10-15
trazo y 10-15. Grupos de 10-15 en el cerro
de 1957, gran a 10-15, gran a 10-15
trazo y 10-15.

Canyon between Lake Yosee just east of
Roosevelt Nat. Camp, Lake Tahoe "nest" of
Pileated Woodpecker. Lake Yosee. The forest
is *Quercus*, *Pinus* & *Abies* & *Thuja* & *Larix*
in canyon bottom.

2 2101 *Lindernia diffusa* (L.) Wettstl.

Lindernia diffusa (L.) Wettstl.

5 Helictes mexicana HBK

21 de Agosto 1917

Shallow bank where Cayman just 2. F
 Rhomboid, long, white, like the one of
 Carl met 15 (Fala H. L.), large flower
 Eucalyptus argentea with aqueduct.

G. rosea

6 211. *Mimosa erecta* L.

Shrub perennial, recently short and
 young at the base and rising up to 10 m
 long; stem 5 yellow, mostly decumbent.
 The leaves light, bases of young leaves bright

5 212. *Eleutheranthera ruderalis* (Sw.) Sch. Bip.

Shrub perennial, somewhat woody
 to 1 m; stem yellow, but green at base
 above base of trunk and bark

3 213. *Mimosa pigra* L.

Shrub, loosely branched, to 3 m
 long. Leaves large, pinnate, primary leaves thick
 below up to 10 cm, secondary leaves thin

8+2 214. *Passiflora trinitatis* Millsp.

Shrub, perennial, to 10 m high
 stem for 1 m, grey, fl. green. The fruit
 small, round, at apex

2 215. *Cupressus* - yellow, green

Shrub, perennial, to 10 m high
 (note: Occasional in the large forest)

2113 *Albizia* - wet ground at base of forest

Acalypha arvensis Poepp. & Endl.

4 2116. *Aeschynomene sensitiva* Sw.
Stems slender, 3-4 m. tall; corolla
bright yellow. Flowers shallow (as 10-15 cm)
(at base of stem) in the clust along shore of
small bay (with 2/13).

22 de Agosto 1957
Habitat & country same as 2115. (Habitat, forest
on a ridge N. of lake), light soil (red)
(20-40 cm). Large Yajid, Honduras.

(5) 2117 *Mimosa wislizeni* (Renz) K. Schum.
Woody, climbing vine with yellow
flowers, corolla deep yellow, the throat
dark streaked with red; calyx green - the fruit
on a small, woody stem, pale green.

22 August 1967

Southeast corner of El Cuzco tract
(Santa Rita Co.), North of Lago Chapala,
Monterrey, Coahuila (pine forest) with some
moss & palms, especially in shade.

2118 *Asplenium* fern. (probably not
a *Asplenium* fern). Petioles in upper part
of leaf 2-3 cm long, fronds c. 18 cm long
(incl. petiole). Interspersed in canopy with
other ferns.

2119 *Asplenium* (probably a *Asplenium*)
young plants - small 1-2 ft high - in
shade.

2120 *Viola*

Viola in 1967 - same, the
same, the same.

2121 *Adiantum*

Interspersed in canopy with other ferns
very large, deeply lobed, with numerous
small pinnae, of the size 1-2 dm by 1-2 dm
much below. (The plant is
much larger - the whole plant many centimeters
of the tree.)

1 2122 *Psychotria*

Shrublet or tree to 7 m. high; trunk
brown with prominent lenticular, gray brown,
scars c. 3 m. long & glaucous white which = a
thin). Common beneath forest canopy.

② 2123 *Hedyosmum* (Miconioides) ^{hufans Sw.}

Shrub, especially short, very aromatic
and stem regularly branched forming a
bush 1-3 m. high, from a scrub to 15 m. high
primarily by lenticular gray scars, the base quite
aromatic; leaves small, thin, glaucescent
above, pubescent below, in terminal panicles which
become sol. black of oil and as
black on trunk or to.

2124 *Peperomia*

Epiphytic or epiphytic; leaves perfoliate
below with purplish streaks along, glaucous
above. On the trunk, small, round.

2125 *Rhaphidophora* (young young plant)

Climbing or scandent, large in fruit
stems and dense branches; leaves
lanceolate, young plants with 1-2
leaf nodes, 2-3 m. long to 15 m. wide
dichotomous, the small ones deeply lobed
at all form.

2 2126 *Mastrevallia* sp. nov.

Epiphytic or scandent, 1-2 m. high, 1-2 m. wide.

3 2127 *Stelis* sp.
Large green orchid
Epiphytic on moist tree branch
(palm)

2128 *Psittacium*
on moist tree branch

2129 *Psittacium*
Climbing old moist tree branch
mosses.

2130 - 32 *Psittacium* or *Epiphytic*
orchid. One has a common
base and a pair of leaves.

Area of country north of El Volcan, no
#217, 22 April 1957

8 2133 *Trichostema* (L'Her.) Costatus Rich.

Perennial from a woody base
forming shrubby, 1-2 m. high, corolla
opening at night. Leaves small, very
pale green, with white and black
dots on the base. Leaves smooth to
very rough, small, narrow.

23 de Agosto 1957

Campesina, San Jose just east of
Pacaret, San Jose. Sugar cane tract - 134
(Jico R.R. Co.), large pines (Cerro Pico)
Montañas.

2132-2140 and 2145 are some narrow
rings, mostly round, in valley bottom with
mountain forest.

(4)+(5) 2134. *Heliotropium aff. curvum* L.

Most abundant forest shrub here,
white flowers - blue. Along the
Camino, mostly soil, sun. (Bent & S.)

(7) 2135, *Cordia ferruginea* R. & S.

Shrub, 10-15 m. high - flowers of
approx. 2-3 m. high. Corolla
white. Along the road in open up to canopy
bottom. (Bent & S.)

2136. *Asplenium* (small)

Known as *masa*; leaves
thickish with a single ribbed vein on the
upper surface, dark green above, pale
below. Not clearly fern above, more

2137. *Asplenium*

Rhizome erect; from thickish, entire
or with 1-2 basal lobes, often developing roots
anterior to base of blade. Wet shady banks
above stream.

2138. *Asplenium*

Rhizome creeping, long; blades c. 4
in. long. Wet shady banks above stream,
sometimes in forested canyon bottom.

2139. *Asplenium*

Rhizome long-creeping. Common on
wet shady banks, sometimes in forested canyon
bottom.

2140. fern - *Asplenium*

Perennial from erect rhizome about 1
cm. thick, 10 cm. long. Just back of stream
in moist canyon bottom. Shaded.

2141. *Asplenium*

Perennial from thick erect rhizome densely
covered by fern fronds. Blade bases about 1
cm. thick, 10 cm. long.

2142. *Asplenium* (complanatum)

Plugs ascending; stipe c. 3 dm long,
with yellowish chartaceous base.
Under shrubs in forest canyon bottom.

2143. '*S. sp.*' (*Asplenium* ind.)

Plugs from sand shingles about
shrubs, stipe c. 4 dm long. Under shrubs
forming mud grooves.

2144. *Asplenium* (complanatum)

Plugs from sand shingles about
shrubs, stipe c. 4 dm long. Partial shade under
shrubs, in sand valleys (1911/12).

2145. *Isotria*

Plugs from sand shingles with
mossy growth, stipe c. 3 dm long.
Plugs of moss in white sand valleys, under
shrubs.

2146. *Asplenium*

Plugs from sand shingles about
shrubs, stipe c. 4 dm long. Under shrubs
in sand valleys bottom.

2147. *Asplenium*

Plugs from sand shingles about
shrubs, stipe c. 4 dm long. Under shrubs
in sand valleys bottom.

2148. *Aoplangium*

Plazous becoming and somewhat
harder. In dark ridge drabs in adjacent
low and irregular. (Plant as *Thymus* but
a few acroclads).

2149. *Aoplangium*

Plazous erect, rather and very
not good. Below thick in forest
a few below ridge.

2150. *Lepidolepis*

Similar to #2148. *Polypodium* like
and growing just above [Plazous erect,
rather and plain. Very good. Pale
brownish. Below ca. 1/2 m. below.

2151. *Thipisac*

Plazous from root in dense forest
growing about dark green above. Height 4
cm. long. In heavy leaf mold and
plants under plants, in wet forest of
dense forest.

5 #2152. *Cissampelos pareira* L.

Plazous from root in dense forest
growing about 1/2 m. long. In heavy leaf mold and
plants under plants, in wet forest of
dense forest.

4 2153. *Croton* shrub *Vernonia canescens* HBK
Rustle shrub to 2 m. high. In open
flats, pine forest in canyon bottom.

6 2154. *Croton* sp. *Wedelia trilobata* (L.) Hitchc.
Perennial from a tuberous root. Stems
decumbent, rooting at nodes, finely
canescent, with yellow rays bright yellow
in upper half changing at length to orange-
yellow at the middle. In damp grassy
open spaces, along edge of road - open pine
forest in canyon bottom.

4 2155. *Croton* *Crotalaria myapensis* HBK
Slender shrub to 2 m. high: Corolla
bright yellow. In dense scrub and near
bottom of canyon under thick pine
forest.

③ 2156. *Tabernaemontana coccinea* L.
Shrub 1-3 m. high. Branches dense
and round. Corolla white, lobes
opening to expose red, hanging from margin
of lobes. In open grassy areas, under
of thick shrubs.

2157. *Orchidaceae*.

Epiphytic on large branches, shade
fls. white.

23 de Agosto 1957

Bay of Sagayayon, just east of Bataan
municipal camp, Tarlac Prov. - Swampy ground
of a shrub with green cutting grass, with
other grasses & a few small trees.

6 2153. *Massandra* *Thalia geniculata* L.

Grass-like plant, roots 2-3 m. above
the water, roots in dense submerged soil
1 m. below the surface. Apparently more
water tolerant, probably more than
themselves. The culms are 9-6
to 10 m. high, with a few leaf sheaths
at the top. The plant is prostrate, irregular,
spreading, with a few of them. The prostrate
parts of them with leaf sheaths & leaves
of prostrate; A) leaf blades; B) inflorescence
(panicle).

Barangay Sagayayon - 24 de Agosto 1957

3 2154. *Cyrtosia* *Cypura paludosa* Aubl.

Prostrate, low, small, dense, prostrate
shrub, growing at right angles to the water
in the marshy. The plant is more tolerant
of brackish water along the shore.

Western side of Lake Valley 2 15 mi.
N. of San Pedro, Cal., Colorado.

24 April 1951.

Wet, open, sandy soil, with some
brush, *Larrea* & *Prosopis*, *Salvia*
leucantha, *Yucca* sp. etc. Some patches
of bare sand, also some of very large
boulders of sandstone, *Trilobites* found.
Soil is a rocky, light-colored
sandstone. *Malva depressa* (Pursh) Fernald

⑥ 2160. Small tree 6-8 ft. high, very
perennial, with green, slightly darkened
pinnate leaves, with white or pinkish
flowers, fruiting in clusters, 2-6 in. diameter.
Bark is grey.

⑧ 2161. *Quercus* *peruviana* L.

Small spreading tree 8-10 ft. high, with
dark, thick bark, grey; pinnate leaves, 1-2
in. long, with dark, slightly serrated
margins, fruiting in clusters, 2-6 in. diameter.
Bark is grey.

2. Fruit dehiscing longitudinally into
many seeds.

(4) 2162. *Bombacaceae* *Ceiba pentandra* (L.) Gaertn.

Tree 12, 15, 25 m
bark smooth, light grey, but
dark brown, bark 2-3 mm thick.
Leaves 12-25 cm long, brown, coriaceous,
narrowly ovate, apex rounded, base
obcordate, upper surface glaucous, lower
pale green, venation pinnate (primary) -

4 2163. *Cannaceae* - *Maranta*

Maranta arundinacea L.

Herb, a genus of 5 m or 5 ft tall, erect
stem, ending in a panicle, leaf broad
but spreading, 4-8 cm long, in dark green
no spec. for seed seen in woodland.

9 2164. *Sapindaceae* *Paullinia pinnata* L.

Woody vine, fruit greenish.
Leaves 10-20 cm long, 5-10 cm wide, dark
green above, pale below.

(5) 2165. *Phyllanthus brasiliensis* (Aubl.) Peir.

Small tree 10-15 m tall, 5 cm dbh.
Leaves 5-10 cm long, 2-5 cm wide, dark
green above, pale below, petiole
protruding, 1-2 cm long, 1-2 mm wide.
Flowers 2-3 cm long, 3-5 mm wide,
sepals 5, petals 5, fruit 2, 1-2 cm long, 1-2
cm wide.

2

Sybil. (Ficus) glabrata HBK.

A tree 30 m. high, deeply branched,
leaves from 10 to 15 cm. long, 5 to 7 cm. wide,
oblong-ovate (lanceolate), base cuneate, apex
acute, light green, smooth, with prominent
midrib and veins, pale yellowish green
below. Spineless, bark smooth.

3

2167 *Ficus costaricana* (Liebm.) Mig.

Tree 10 to 15 m. high, trunk
unbranched, 10 cm. diameter, smooth,
grey. Leaves 10 to 15 cm. long, 5 to 7 cm. wide,
oblong-ovate, base cuneate, apex acute,
light green, smooth, with prominent
midrib and veins, pale yellowish green
below. Spineless, bark smooth.

3

2168 *Smilax domingensis* Willd.

Tree climbing with tendrils; per-
sistent brown on shrubs in dense forest.

(3)

2169 *Triaridoides Cham.*
var. schizocarpum

Shrub by roadside 1-2 m. high,
corolla white. Leaves small, ovate,
base cuneate, apex acute, light green,
smooth, with prominent midrib and veins,
pale yellowish green below. Spineless, bark smooth.

2170 *Triaridoides tuerckheimii* Don Sm.

Tree 20 m. high; trunk smooth,
grey-brown, deeply furrowed on young
and old trunks with a narrow, white
line of cork. Leaves small, ovate,
base cuneate, apex acute, light green,
smooth, with prominent midrib and veins,
pale yellowish green below. Spineless, bark smooth.

East side of La Loma north of La
Ranchara Park, Colima Prov., Mexico, Jan.
25 de Agosto 1937. (D. S. Gentry)
(Gentry 1937).

⑥ 271 *Centrosema* REL.

Herb, prostrate, 10 to 15 cm. long.
Leaves pale white, often becoming
purplish green white, 1/2 inch long.
In second growth 20 cm.

Aug 25 1937

⑦ 272 *Centrosema* L.

Herb, prostrate, 10 to 15 cm. long.
Leaves pale white, often becoming
purplish green white, 1/2 inch long.
In second growth 20 cm.

⑧ 273 *Centrosema* *angiospermum* Murr.

Herb, prostrate, 10 to 15 cm. long.
Leaves pale white, often becoming
purplish green white, 1/2 inch long.
In second growth 20 cm.

East Slope of Cerro Ulyaca,
west of Gametani, just south of Valle
Encantado, altitude 1655 m. - T. Bonifacio,
Peru. 28 de Agosto de 1957.

Cerro Volcánico Bonifacio, atajo con firma
aliente, que se sube ^{al} fin de P. Occarpa,
entonces queda marcada P. Occarpa (ocote)
- P. pseudostriatus (pseud-12), entonces
mide de 1000. Por fin de sube a "la
cruzeta" (clow forest) de como 4500 pies
hasta la cima (como 6400 pies), silva
corta con palos grandísimos Quercus sp.
Carya, Ficus, Moragardus y otros, un
enchajado de orquídeas, bromeliáceas,
aráceas, pipéráceas y especialmente
heliconias epifíticas. Se abundan
muchos árboles de como 20 pies de altura,
además muchos de las clases de la
sierra. Se abundan lianas. I

21744 *Ornithoglossum*

Rhizoma erecto, often decumbent
Herb, acaulescent, branched; prostrate 1 m.
long, some plants with one or more sterile
leaves; others producing young sterile plants.
Berry black (mud in capsule) (small larvae
with black and orange ground along
the borders; abundant in this locality)

